

12. Kowalski JW, Eadie N, Daggett S, Lai PY, Mordaunt J, Strutton D, et al. Validity and reliability of the hyperhidrosis disease severity scale (HDSS). Poster presented at 62nd Annual Meeting of the American Academy of Dermatology, February 2004, Washington DC; poster P198.
13. Lowe NJ, Glaser DA, Eadie N, Daggett S, Kowalski JW, Lai PY. Botulinum toxin type A in the treatment of primary axillary hyperhidrosis: A 52-week multicenter double-blind randomized, placebo-controlled study of efficacy and safety. *J Am Acad Dermatol*. 2007;56:604-11.
14. Schneider FR, Heckelman LR, Garfinkel R, Campeas R, Fallon BA, Gitow A, et al. Functional impairment in social phobia. *J Clin Psych*. 1994;55:322-31.
15. Baumgartner FJ, Toh Y. Severe hyperhidrosis: Clinical features and current thoracoscopic surgical management. *Ann Thorac Surg*. 2003;76:1878-83.
16. Kang CW, Choi SY, Moon SW, Cho DG, Kwon JB, Sim SB, et al. Short-term and intermediate-term results after unclipping: What happened to primary hyperhidrosis and truncal reflex sweating after unclipping in patients who underwent endoscopic thoracic sympathetic clamping? *Surg Lap Endo Perc Tech*. 2008;18:469-73.

## Discussion

**Dr M. Blair Marshall** (Washington, DC). Thank you for an excellent presentation and for getting me both your talk and your manuscript in advance. In discussing sympathectomy, different groups do it different ways. You state that it is a T3 sympathectomy, but you clipped or cut at 2 levels. Could you clarify the definition of what you think T3 is or what one would consider a T3 and T4 sympathectomy?

**Dr Ibrahimiyeh.** In our method, we clip immediately inferior to the third and the fourth ribs, isolating the third interganglionic segment of the sympathetic trunk. I think in other studies, they used the term “T3-T4 sympathectomy” for the procedure that we did.

**Dr Marshall.** This was a retrospective review. It was unclear to me how many patients responded to your survey. Did you have 100% follow-up? Was it every patient followed up exactly at 1 year after their sympathectomy or was the survey sent out at one point for all patients?

**Dr Ibrahimiyeh.** The survey was sent out to all patients at one point, but the patients responded at different intervals. Also, the follow-up was 100%, but not all patients responded to all the questions. You might have seen in the manuscript that for different parts of the body, especially postoperatively, the patients chose not to answer some questions. That is the reason for the discrepancy in the manuscript. We only included the patients who responded.

**Dr Marshall.** In your survey you describe trunk or thigh sweating, but you did not differentiate between the groin or behind the knees, which can be problematic for many patients. Do you think that patients understand the meaning of trunk sweating, and what do you do if you have horrific groin sweating? How do you respond to your questionnaire?

**Dr Shrager.** You probably do not know whether patients knew what you meant by trunk. I do not know how he could answer that.

**Dr Marshall.** I have found when I discuss compensatory sweating (CS) with patients, if you use the word “trunk,” they do not really know what you are talking about. So how do you ensure, in fact, that the patients know enough to answer your survey appropriately?

**Dr Ibrahimiyeh.** I think you make a very valid point. Obviously, when we say “trunk,” we mean the torso, but some patients, as you pointed out, might not understand what we mean, and I do not believe we made an effort to tell them what we mean by “trunk.”

**Dr Mark J. Krasna** (Towson, Md). Ali, thank you. It is actually a very intriguing paper.

I want to follow-up on one of Dr Marshall's points, which I think is very important. There is actually a new standard nomenclature for reporting sympathectomy that has been adopted by both the Society of Thoracic Surgeons and the International Society of Sympathetic Surgery. I would strongly recommend before your final version of your manuscript that you go to one of those Web sites and you will see that. I think what Blair was pointing out is that what you really did is what would be called an R3-R4 sympathetic clamping, and that is probably how it should be defined.

I do have 2 questions, though, which I think are very intriguing to all of us who have been looking at the question of clamping. One very simple question is did you notice a difference in the operating time when you did clamping versus cutting? You did not tell us, but did you look for it?

**Dr Ibrahimiyeh.** We did not look for it specifically, but this was a single-surgeon, single-institution experience, and they reported that there was no significant time difference.

**Dr Krasna.** My second question has to do with reversibility. Obviously, one of the benefits proposed for doing clamping versus cutting is, as you said, the potential for reversibility. Did you actually have any cases in whom the patients were unhappy and they went for reversibility, and if those patients underwent a reversal procedure, was it successful? That is obviously one of the key questions we would like to know.

**Dr Ibrahimiyeh.** Thank you.

In this cohort of 152 patients, we actually had 1 patient who underwent a reversal procedure 1 year after the original procedure, and this patient did not have any improvement of her symptoms. It was 1 year after the initial procedure. In addition to that, in our entire cohort of 362 patients, we had 4 additional patients who underwent a reversal procedure. Three of these four actually reported improvement and were able to maintain the benefits of the original procedure; however, one did not have any change in symptoms, and the patient who did not have any change was also 1 year out of the surgery.

**Dr Laureano Molins** (Barcelona, Spain). Thank you for your presentation.

Our experience was with cutting until 2007, 300 patients, and then 100 more with clipping, and the results were quite similar. I have 2 questions. One is technical. What kind of clip do you use? We think that the usual surgical clip, you cannot see the end. Second, with these conclusions, do you recommend, as we are doing, clipping versus cutting?

**Dr Ibrahimiyeh.** We use the standard 5-mm hemoclip. As you pointed out, the most important thing that my attending always tells me is that you have to see the ends of the clips, as you pointed out, but it is a straight 5-mm hemoclip.

Your second question, we do recommend this procedure for those patients who have failed medical therapy and in whom hyperhidrosis is severely affecting their quality of life, and we always make them aware of the possibility of compensatory sweating.

**Dr Molins.** So you have adopted the clipping?

**Dr Ibrahimiyeh.** Yes, we have completely adopted the clipping method.

**Dr Michael A. Maddaus** (Minneapolis, Minn). You indicated that you do a T3 and T4 clipping routinely. Is that right?

**Dr Ibrahimiyi.** Yes.

**Dr Maddaus.** Is that for all comers, kind of like a Nissen for all refluxers? In other words, for people who have axillary hyperhidrosis, do you do a T3-T4? You know, when you get the occasional patient with a foot problem, do you do a T3-T4? Do you differentiate in any way what levels you clip, or is everybody a T3-T4?

**Dr Ibrahimiyi.** Everybody in this study cohort had palmar hyperhidrosis, so they all underwent the same procedure. I have not had any experience with axillary hyperhidrosis. Perhaps, Dr Gorenstein might be able to answer your question.

**Dr Lyall A. Gorenstein** (*New York, NY*). The only operation we do basically is for patients who have palmar hyperhidrosis. So the axillaries, the plantars, et cetera, they are treated in other ways.

**Dr Maddaus.** You do not do it for axillary then?

**Dr Gorenstein.** No.

**Dr Maddaus.** Anything for the head?

**Dr Gorenstein.** No.

**Dr Maddaus.** Any experience with that?

**Dr Gorenstein.** We did in the past and stopped doing it because of bad outcomes, either disappointed patients or severe compensatory sweating, and do not recommend it.

**Dr Joseph B. Shrager** (*Stanford, Calif*). It has become traditional when there is a paper on hyperhidrosis to poll the audience to see what people do.

For isolated palmar hyperhidrosis, who does T4 only?

(A show of hands.)

**Dr Shrager.** One. Who does T3 only?

(A show of hands.)

**Dr Shrager.** Who does T3 and T4?

**Dr Krasna.** R3-R4.

**Dr Shrager.** Okay. Sorry, Dr Krasna. R3 and R4?

(A show of hands.)

**Dr Shrager.** Who does R2 through R4?

(A show of hands.)

**Dr Shrager.** Just R2? Any others just R2?

(A show of hands.)

**Dr Shrager.** I know you have changed, then, Blair, because that is not what you told me a year ago.